

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: markspencer

Timestamp: [year=2008; month=3; day=13; hr=14; min=56; sec=57; ms=367;]

=====

Application No: 10551699 Version No: 2.0

Input Set:

Output Set:

Started: 2008-03-03 14:45:59.010
Finished: 2008-03-03 14:45:59.830
Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 820 ms
Total Warnings: 12
Total Errors: 0
No. of SeqIDs Defined: 21
Actual SeqID Count: 21

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)

SEQUENCE LISTING

<110> CropDesign N.V.

<120> Plant haemoglobin

<130> 4982-4

<140> 10551699

<141> 2005-11-21

<150> PCT/EP04/50405

<151> 2004-04-01

<150> EP 03075974.0

<151> 2003-04-01

<160> 21

<170> PatentIn version 3.3

<210> 1

<211> 860

<212> DNA

<213> Beta vulgaris

<400> 1

tacaaaccac aaatttaagc tattaataca ctttctctgt catTTTTTgt tgttccaatt 60

tagtttcttt tcttttaaatt taaaacaaaa ctatgacttt tacagagaaa gatgaagctt 120

tggtaaaaga atcatgggat ataatgaagc aaaatatccc agaatacagc cttcggtttt 180

tctccataat attggaaatt gctccagcag caaaaatat gttctcattt ttaagggtatt 240

cagaggaagt tccacagaat aatcccaagc tgaaagctca tgcaatcaag gtttttaaaa 300

tgacatgtga atcagccatt caacttcgag aaaaaggtga agtggttgta ggagagacta 360

cccttaaata tttgggagct atccatttga agaatggagt gattgatccc catTTTgagg 420

ttgtgaaaca agcattattg agaaccatag aagaagcaag tggtgacaaa tggagtgaag 480

aattgaaatg tgcttgaggt gttgcctatg atcacttagc tgcagccatc aaagctgaga 540

tgaaggaata ggtagcttag ttctcagtcg caaaagtat tactctaaaa atattgaata 600

aatattctta ttgtttttga ggggaaatta ttgttattgt tgattctgac tcacttattt 660

atccgagtga cttgatatgg tgctttttct tgccttatta ttgattagca agaaggaaat 720

caaattcata attattgggt taaccatgta atagtgcata ttaattgtga taaaaccttg 780

gtgatatatg taccttattg caaatttaaa ataatttcc ctcggtcttt catTTTaaaa 840

aaaaaaaaaa aaaaaaaaaa

860

<210> 2

<211> 152

<212> PRT

<213> Beta vulgaris

<400> 2

Met Thr Phe Thr Glu Lys Asp Glu Ala Leu Val Lys Glu Ser Trp Asp
1 5 10 15

Ile Met Lys Gln Asn Ile Pro Glu Tyr Ser Leu Arg Phe Phe Ser Ile
20 25 30

Ile Leu Glu Ile Ala Pro Ala Ala Lys Asn Met Phe Ser Phe Leu Arg
35 40 45

Asp Ser Glu Glu Val Pro Gln Asn Asn Pro Lys Leu Lys Ala His Ala
50 55 60

Ile Lys Val Phe Lys Met Thr Cys Glu Ser Ala Ile Gln Leu Arg Glu
65 70 75 80

Lys Gly Glu Val Val Val Gly Glu Thr Thr Leu Lys Tyr Leu Gly Ala
85 90 95

Ile His Leu Lys Asn Gly Val Ile Asp Pro His Phe Glu Val Val Lys
100 105 110

Gln Ala Leu Leu Arg Thr Ile Glu Glu Ala Ser Gly Asp Lys Trp Ser
115 120 125

Glu Glu Leu Lys Cys Ala Trp Ser Val Ala Tyr Asp His Leu Ala Ala
130 135 140

Ala Ile Lys Ala Glu Met Lys Glu
145 150

<210> 3

<211> 858

<212> DNA

<213> Arabidopsis thaliana

<400> 3

attgaatacc atatatatat agatacacag acatataaac acacaaatat tcgtgttttt

60

```

ttcaaactgt gagagaaaaa gaaagagaga aagagatggg agagattggg tttacagaga      120
agcaagaagc tttggtgaag gaatcgtggg agatactgaa acaagacatc cccaaataca      180
gccttcactt cttctcacag atactggaga tagcaccagc agcaaaaggc ttgttctctt      240
tcctaagaga ctcagatgaa gtccctcaca acaatcctaa actcaaagct catgctgtta      300
aagtcttcaa gatgacatgt gaaacagcta tacagctgag ggaggaagga aaggtagtag      360
tggtcgacac aaccctcaa tatttaggct caattcatct caaaagcggc gttattgacc      420
ctcacttcga ggtggtgaaa gaagctttgc taaggacatt gaaagagggg ttgggggaga      480
aatacaatga agaagtggaa ggtgcttggc ctcaagetta tgatcacttg gctttagcca      540
tcaagaccga gatgaaacaa gaagagtcac aaaaccctat tgatcatttg ggtatcgcat      600
acatgaatct attccacata catgatacac atatacgtgt ttctgtgtgt gtactatgtt      660
gctctctgac tttctacagt tcaactatctt aattataaag aaggatcttg tgctatcatt      720
aggagagatac gtgatactgt agttcttctt gaaattgtta ttcgtgagaa atatcatggt      780
ttgaagtatt tattttcaca agatggatgt taacgtgggg atcattttac aatcattcta      840
caaataattt tacttctc                                                    858

```

```

<210> 4
<211> 158
<212> PRT
<213> Arabidopsis thaliana

```

```

<400> 4

```

```

Met Gly Glu Ile Gly Phe Thr Glu Lys Gln Glu Ala Leu Val Lys Glu
1           5           10          15

```

```

Ser Trp Glu Ile Leu Lys Gln Asp Ile Pro Lys Tyr Ser Leu His Phe
          20           25           30

```

```

Phe Ser Gln Ile Leu Glu Ile Ala Pro Ala Ala Lys Gly Leu Phe Ser
          35           40           45

```

```

Phe Leu Arg Asp Ser Asp Glu Val Pro His Asn Asn Pro Lys Leu Lys
          50           55           60

```

```

Ala His Ala Val Lys Val Phe Lys Met Thr Cys Glu Thr Ala Ile Gln
65           70           75           80

```

Leu Arg Glu Glu Gly Lys Val Val Val Ala Asp Thr Thr Leu Gln Tyr
85 90 95

Leu Gly Ser Ile His Leu Lys Ser Gly Val Ile Asp Pro His Phe Glu
100 105 110

Val Val Lys Glu Ala Leu Leu Arg Thr Leu Lys Glu Gly Leu Gly Glu
115 120 125

Lys Tyr Asn Glu Glu Val Glu Gly Ala Trp Ser Gln Ala Tyr Asp His
130 135 140

Leu Ala Leu Ala Ile Lys Thr Glu Met Lys Gln Glu Glu Ser
145 150 155

<210> 5
<211> 486
<212> DNA
<213> Brassica napus

<400> 5
atgggagaga ttgtgtttac ggagaagcaa gaagctttgg tgaaggagtc ttgggagata 60
ctaaagcaag atatcccaa atacagtctt cacttcttct cacagatact ggagatagca 120
ccagcagcaa aggacatgtt ctctttccta agagacacag atgaagtccc tcataacaat 180
cctaaactca aagctcatgc tgtaaagtc ttcaagatga catgtgagac agcaatacag 240
ctgagggaga aaggaaaggt agtggtggct gacacaaccc tccaatactt gggctctgtt 300
catttcaaga gcggtgttct tgatcctcac tttagggtgg tgaaagaggc attggtgagg 360
aactgaaag aagggttggg ggagaagtac aatgaagaag tggaaggagc ttggtccaag 420
gcttatgatc acttggcttt agccattaag gccgagatga aacaagaaga ctcacaaaaa 480
ccctaa 486

<210> 6
<211> 161
<212> PRT
<213> Brassica napus

<400> 6

Met Gly Glu Ile Val Phe Thr Glu Lys Gln Glu Ala Leu Val Lys Glu
1 5 10 15

Ser Trp Glu Ile Leu Lys Gln Asp Ile Pro Lys Tyr Ser Leu His Phe

20

25

30

Phe Ser Gln Ile Leu Glu Ile Ala Pro Ala Ala Lys Asp Met Phe Ser
 35 40 45

Phe Leu Arg Asp Thr Asp Glu Val Pro His Asn Asn Pro Lys Leu Lys
 50 55 60

Ala His Ala Val Lys Val Phe Lys Met Thr Cys Glu Thr Ala Ile Gln
 65 70 75 80

Leu Arg Glu Lys Gly Lys Val Val Val Ala Asp Thr Thr Leu Gln Tyr
 85 90 95

Leu Gly Ser Val His Phe Lys Ser Gly Val Leu Asp Pro His Phe Glu
 100 105 110

Val Val Lys Glu Ala Leu Val Arg Thr Leu Lys Glu Gly Leu Gly Glu
 115 120 125

Lys Tyr Asn Glu Glu Val Glu Gly Ala Trp Ser Lys Ala Tyr Asp His
 130 135 140

Leu Ala Leu Ala Ile Lys Ala Glu Met Lys Gln Glu Asp Ser Gln Lys
 145 150 155 160

Pro

<210> 7

<211> 50

<212> DNA

<213> Artificial sequence

<220>

<223> primer prm05458

<400> 7

ggggaccact ttgtacaaga aagctggggtc aaatgatcaa tagggtttta

50

<210> 8

<211> 57

<212> DNA

<213> Artificial sequence

<220>

<223> primer prm06122

<400> 8
ggggacaagt ttgtacaaaa aagcaggctt aaacagtgag agaaaaagaa agagaga 57

<210> 9
<211> 54
<212> DNA
<213> Artificial sequence

<220>
<223> primer prm05447

<400> 9
ggggacaagt ttgtacaaaa aagcaggctt aaacaatggc tctcgtggag gata 54

<210> 10
<211> 48
<212> DNA
<213> Artificial sequence

<220>
<223> primer prm05448

<400> 10
ggggaccact ttgtacaaga aagctgggtg atcatggagg tggagcag 48

<210> 11
<211> 64
<212> DNA
<213> Artificial sequence

<220>
<223> primer prm06021

<400> 11
ggggacaagt ttgtacaaaa aagcaggctt aaacaatgac ttttacagag aaagatgaag 60

cttt 64

<210> 12
<211> 56
<212> DNA
<213> Artificial sequence

<220>
<223> primer prm06022

<400> 12
ggggaccact ttgtacaaga aagctgggtc taagctacct attccttcac ctcagc 56

<210> 13

<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic sequence

<400> 13

Glu Glu Thr Ala Arg Phe Gln Pro Gly Tyr Arg Ser
1 5 10

<210> 14
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic sequence

<400> 14

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
1 5 10

<210> 15
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic sequence

<400> 15

Asp Tyr Lys Asp Asp Asp Lys
1 5

<210> 16
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic sequence

<400> 16

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
1 5

<210> 17
<211> 12

<212> PRT
<213> Artificial sequence

<220>
<223> synthetic sequence

<400> 17

Glu Asp Gln Val Asp Pro Arg Leu Ile Asp Gly Lys
1 5 10

<210> 18
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic sequence

<400> 18

Tyr Thr Asp Ile Glu Met Asn Arg Leu Gly Lys
1 5 10

<210> 19
<211> 159
<212> PRT
<213> *Gossypium hirsutum*

<400> 19

Met Gly Phe Thr Glu Lys Gln Glu Gly Leu Val Lys Glu Ser Trp Glu
1 5 10 15

Val Leu Lys Gln Asp Ile Pro His Ser Ser Leu Arg Phe Phe Ser Leu
20 25 30

Ile Leu Glu Ile Ala Pro Gly Ala Lys Asn Met Phe Ser Phe Leu Arg
35 40 45

Glu Ser Glu Glu Ile Pro Gln Asn Asn Pro Lys Leu Lys Ala His Ala
50 55 60

Val Lys Val Phe Lys Met Thr Cys Glu Ser Ala Ile Gln Leu Arg Glu
65 70 75 80

Lys Gly Glu Val Val Val Ala Asp Thr Thr Leu Lys Tyr Leu Gly Thr
85 90 95

Val His Val Lys Ser Gly Val Lys Asp Pro His Phe Glu Val Val Lys
100 105 110

Glu Ala Leu Leu Arg Thr Ile Glu Glu Ala Ile Gly Glu Glu Lys Trp
115 120 125

Asn Glu Glu Met Lys Asn Ala Trp Gly Glu Ala Tyr Asp Gln Leu Ala
130 135 140

Glu Ala Ile Lys Ala Glu Met Lys Asn His His Asp Glu Thr Ala
145 150 155

<210> 20

<211> 156

<212> PRT

<213> Lycopersicon esculentum

<400> 20

Met Gly Phe Thr Asp Lys Gln Glu Ala Leu Val Arg Asp Ser Trp Glu
1 5 10 15

Phe Met Lys Gln Asp Ile Pro Gln Leu Ser Leu Arg Phe Phe Ser Leu
20 25 30

Ile Leu Glu Ile Ala Pro Val Ala Lys Asn Met Phe Ser Phe Leu Lys
35 40 45

Asp Ser Asp Glu Leu Pro Glu Asn Asn Pro Lys Leu Arg Ala His Ala
50 55 60

Val Lys Val Phe Lys Met Thr Cys Glu Ser Ala Ile Gln Leu Arg Glu
65 70 75 80

Lys Gly Glu Val Val Val Gly Glu Thr Thr Leu Lys Tyr Leu Gly Ser
85 90 95

Ile His Leu Gln Lys Arg Val Ala Asp Pro His Phe Glu Val Val Lys
100 105 110

Glu Ala Leu Leu Arg Thr Val Lys Glu Ala Thr Gly Asn Lys Trp Lys
115 120 125

Asp Glu Met Lys Glu Ala Trp Ser Glu Ala Tyr Asp Gln Leu Ala Ser
130 135 140

Ala Ile Lys Ala Glu Met His Ala Glu Ala Ala Ala
145 150 155

<210> 21
<211> 152
<212> PRT
<213> Casuarina glauca

<400> 21

Met Ala Leu Thr Glu Lys Gln Glu Ala Leu Leu Lys Gln Ser Trp Glu
1 5 10 15

Val Leu Lys Gln Asn Ile Pro Ala His Ser Leu Arg Leu Phe Ala Leu
20 25 30

Ile Leu Glu Ala Ala Pro Glu Ser Lys Tyr Val Phe Ser Phe Leu Lys
35 40 45

Asp Ser Asn Glu Ile Pro Glu Asn Asn Pro Lys Leu Lys Ala His Ala
50 55 60

Ala Val Ile Phe Lys Thr Ile Cys Glu Ser Ala Thr Glu Leu Arg Gln
65 70 75 80

Lys Gly His Ala Val Trp Asp Asn Asn Thr Leu Lys Arg Leu Gly Ser
85 90 95

Ile His Leu Lys Asn Lys Ile Thr Asp Pro His Phe Glu Val Met Lys
100 105 110

Gly Ala Leu Leu Gly Thr Ile Lys Glu Ala Ile Lys Glu Asn Trp Ser
115 120 125

Asp Glu Met Gly Cys Ala Trp Thr Glu Ala Tyr Asn Gln Leu Val Ala
130 135 140

Thr Ile Lys Ala Glu Met Lys Glu
145 150